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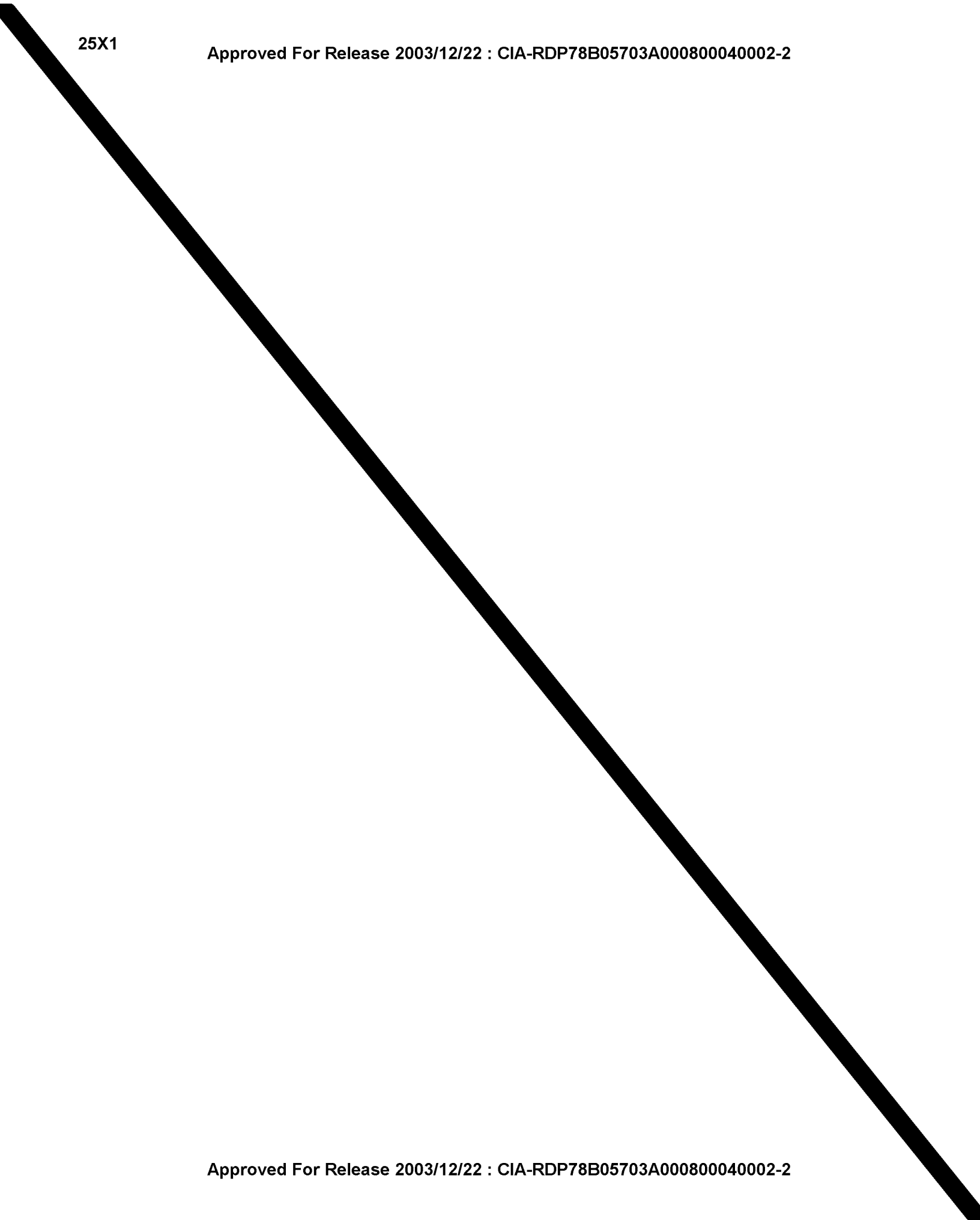

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30 June 1970
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MEMORANDUM FOR: DDI Planning Officer

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ATTENTION :

SUBJECT : January-June 1970 NPIC Accomplishments for Inclusion in PFIAB Report

1. In response to your request for statements of NPIC accomplishments, covering the period January-June 1970, to update the accomplishments contained in the FY 1972-1976 Five Year Plan/Program Submission, the following are submitted.

2. Imagery Analysis

Mission Exploitation

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During the first half of Calendar Year 1970, the Center received imagery from and from 7,320 manned and drone aircraft missions. The aircraft missions included 12 over Cuba, five along the China Coast, five over North Korea, and the balance, constituting the majority, covered Southeast Asia. First- and second-phase reporting on these missions resulted in the preparation of 120 reports, covering some 30,000 targets and activities.

Basic Support

Under the National Tasking Plan the Center has responsibility for basic reporting in 12 functional categories. During this six-month period, the Center completed the FY 70 Basic Reporting Program consisting of a total of 446 basic reports. Most of these reports have been reproduced and disseminated; a few remain for dissemination during July and early August 1970.

Direct Support

During this same period, the Center prepared 82 formal reports and 91 inter-office memoranda in response to requests for direct support from organizations which have no integral imagery analysis capability of their own.

Intelligence Reporting

The Center, during this period, provided 92 items of important intelligence information derived from imagery, which were included in the Black Book edition of the Current Intelligence Bulletin, the President's Daily Brief, and the Vietnam Situation Summary.

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Reporting coverage continued to be primarily on the Soviet Union and Communist China, but significant coverage was also directed to Southeast Asia, North Korea, the Middle East, Africa, and Cuba.

Reporting on the Soviet Union emphasized offensive weapon development including surface-to-surface missiles and intercontinental ballistic missiles. [redacted] 25X
[redacted] 25X
Also of importance was information reported on aircraft construction and deployment, establishment of new surface-to-air missile installations, and communications, radar, and air-warning facilities. Of particular interest was the observation of the improvement of the Soviet military posture along the Sino-Soviet Border, including identification of new facilities and increases in the air and ground order of battle.

The most significant information produced on China was the identification of the surface-to-surface missile launch site at Wuchai and a possible site at Linchiang.

In the Middle East area, emphasis was placed on air order of battle and air defense capabilities. The first SA-3 missile system in Egypt was identified, and as of [redacted] a total of 15 sites had been observed. Additionally, 91 SA-2 missile sites were identified. SA-2 sites were also found in Syria, and construction of new airfields or improvement of existing ones were monitored in Egypt, Iraq, and Jordan. 25X

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The location of the USS Pueblo in North Korea was monitored, as it was moved from a quay at Najin Bay to another position four nautical miles away, and later was returned.

Coverage of the Southeast Asia area included identification of the first SA-2 missile site deployed along the Laos Border, and six areas of major insurgent activity in Cambodia prior to the commencement of operations there in May.

Collection Support

The Center continued its program of providing operational support to national imagery collection agencies. A number of efforts were undertaken to improve this support particularly in the area of service to the imagery interpreters. Included were a program for special reproduction of specific high-priority targets, development of a system for selective layer printing of color emulsions resulting in both color and black and white photography, the publication of a camera manual on

5X1 [redacted] as an aid to exploiters, and the development of several new techniques for monoscopic and stereoscopic mensuration.

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3. Imagery Services

Production Support

The Center's publication efforts serving its own, and CIA and DIA printing needs continued to improve significantly during this period, principally through the establishment of better publications procedures and more realistic and effective production management. Hard copy report production, which includes the publication of NPIC and DIA Basic Reports and Briefs, increased by 35% over the first six months of FY 70, and by 40% over the same period a year ago; this increase in production, moreover, was accomplished with only minimal overtime expenditures relative to the overtime required last year.

As a result of recent developments in the state-of-the-art concerning color imagery, the Center's photographic laboratory personnel increased their attention to commercial and research community efforts in the development of procedures and quality control standards for future applications. Additional experimentation with color materials and new processes, along with the development of new equipment, are foreseen for the future.

As the result of a safety survey in the lithographic services area, several specific and potentially serious safety hazards were surfaced. A renovation program was initiated and is now nearing completion. In addition to eliminating the safety hazards, a more realistic work flow and lithographic equipment layout were developed, thereby providing additional advantages.

ADP Support

Preparations for implementation of the Integrated Information System (IIS) by October 1970 continued. During this period, a series of training manuals were prepared and the first of the training sessions completed.

The Center implemented a target prediction program which reduced man-hour expenditures per average mission from 70 man-hours to five man-hours and, more importantly, significantly raised the confidence of target prediction. 25

The Center achieved a mensuration capability in stereo imagery which equals the mono imagery capability while increasing precision for height or depth determinations. Stereo mensuration previously had been available only in a batch mode; now however, linkage has been created between real-time programs and stereo batch programs, thereby providing a fully remote stereo mensuration capability.

Equipment Testing, Evaluation, and Maintenance

Reports were produced on seven major development items tested during the period. Of these, two were found to be unacceptable; two others, including the 1540 light table, were found to be deficient and were scheduled for re-working by the contractors (accomplished for the light tables); the remaining items passed acceptance testing for their particular stages of development.

A project was undertaken to find a solution to the image vibration problem associated with PI microstereoscopes. This project will continue until all feasible alternatives are investigated.

During the period, 332 requests for emergency services were answered. Approximately 62% of these were for failure of electronic components, 26% for mechanical, and 12% for optical. Nearly 1200 instruments were serviced under the preventive maintenance program, representing a 27% increase over the 1969 rate.

Reference Support

Phasing out of the obsolete minicard system commenced during the period; it is being replaced by the microfiche portion of Miniplace. To date, approximately 55% of the minicard file has been converted, personnel have been introduced to the new system, equipment installed, and additional equipment is on order.

New procedures were implemented for production of preliminary Mission Coverage Plots (1:9,000,000 overlays) using the [redacted] Plotter and Mission Correlation Data (MCS). This change eliminates much of the manual plotting required previously. 25X

The installation of the motorized film storage equipment (Fullspace) was completed. The system, now operational, accommodates a third more film in a third less space, permitting relocation of the map library in a portion of the space saved. In addition, the retirement to the Records Center of over 2,000 cubic feet of film for ultimate destruction, as well as the destruction of some 9,000 cubic feet of records, provided needed space savings.

4. Management Support

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During the first half of 1970, the Center's on-duty strength

[redacted]

in process, of which we hope to gain about 50. Part-time employment, as realized in the cooperative education program, has netted NPIC four new co-ops and nine new summer interns.

Continued progress was made in broadening the skills and career development of Center personnel through enrollment in various specialized training programs and on-site training trips. Special in-house courses were conducted running the gamut from PI Writing and Intelligence Research Techniques to a course in higher mathematics.

In an attempt to prevent any violations of safety codes and to encourage safe practices in NPIC operations, all safety devices and protective systems in the Center were tested. As a result, steps were taken to repair deficiencies in the systems, and new fire procedures were implemented. A demonstration of fire fighting techniques and use of equipment was held [redacted] for a group of employees. 25X

With respect to cost savings, 54 pounds of silver was sent to the government repository in Illinois as a result of the silver recovery program; when the new film silver recovery machinery becomes operable, a greater recovery will be realized.

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Other equipment-related development and engineering accomplishments during the period include: development of a new lenticular rear projection screen which promises to overcome the limitations which have made rear projection viewers undesirable for photo interpretation; design of a Scan and Search PI station combining rear projection and direct viewing; and testing of all major components of the High Precision Stereo Comparator (HPSC). Of particular note with 25X

respect to the HPSC are the optical system and the automatic stereo correlation system. Both components have extremely complex functions to perform, and both have demonstrated performance characteristics equalling or exceeding the development goals. Delivery of the complete system is due in early 1971.

Significant progress was made in the area of imagery enhancement. Optical image manipulation techniques to improve smeared images were developed and successfully tested in-house with contractor support. The digital image manipulation (DIM) project at Scripps developed advanced DIM software and interactive display equipment in preparation for the first experiments on operational imagery. And finally, an integrated image manipulation program for improving degraded imagery through digital, optical, and photographic means was conceived and implemented.

Since 1964, the Center has supported research in the development of a revolutionary dry photographic process. In the spring of 1970, the first pilot production runs of dry diazo film and dry silver film and paper were received. An engineering prototype dry silver processor and an experimental 40-inch wide paper processor are currently in the last stages of assembly, and scheduled for delivery in July 1970.

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Chief, Planning, Programming & Budgeting Staff
NPIC

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